

2018 Current Fiscal Year Report: U.S. Air Force Scientific Advisory Board

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1. Department or Agency

Department of Defense

2. Fiscal Year

2018

3. Committee or Subcommittee

U.S. Air Force Scientific Advisory Board

3b. GSA Committee No.

439

4. Is this New During Fiscal Year?

No

5. Current Charter

05/21/2018

6. Expected Renewal Date

05/21/2020

7. Expected Term Date

8a. Was Terminated During Fiscal Year?

No

8b. Specific Termination Authority

8c. Actual Term Date

9. Agency Recommendation for Next Fiscal Year

Continue

10a. Legislation Req to Terminate?

No

10b. Legislation Pending?

Not Applicable

11. Establishment Authority Agency Authority

12. Specific Establishment Authority

Agency

13. Effective Date

02/19/1946

14. Committee Type

Continuing

14c. Presidential?

No

15. Description of Committee Scientific Technical Program Advisory Board

16a. Total Number of Reports

No Reports for this Fiscal Year

17a. Open Meetings 0 17b. Closed Meetings 1 17c. Partially Closed Meetings 1 17d. Total Meetings 2

Meetings and Dates

Purpose	Start	End
The purpose of the United States Air Force Scientific Advisory Board 2018 Spring Board Meeting is to conduct mid-term reviews of the Scientific Advisory Board's FY18 studies, offering board members the opportunity to hear directly from the Study Chairs on the progress they have made thus far and provide dedicated time to continue collaboration on research.	04/12/2018	04/12/2018
The purpose of this quarterly board meeting is to formally complete, outbrief, and receive majority approval for the content and recommendations contained in the United States Air Force Scientific Advisory Board Fiscal Year 2018 studies.	06/14/2018	06/14/2018

Number of Committee Meetings Listed: 2

	Current FY	Next FY
18a(1). Personnel Pmts to Non-Federal Members	\$0.00	\$0.00
18a(2). Personnel Pmts to Federal Members	\$0.00	\$0.00
18a(3). Personnel Pmts to Federal Staff	\$806,653.00	\$830,853.00
18a(4). Personnel Pmts to Non-Member Consultants	\$0.00	\$0.00
18b(1). Travel and Per Diem to Non-Federal Members	\$251,600.00	\$259,148.00
18b(2). Travel and Per Diem to Federal Members	\$0.00	\$0.00
18b(3). Travel and Per Diem to Federal Staff	\$80,600.00	\$83,018.00

18b(4). Travel and Per Diem to Non-member Consultants	\$0.00	\$0.00
18c. Other(rents,user charges, graphics, printing, mail, etc.)	\$932,900.00	\$960,885.00
18d. Total	\$2,796,773.00	\$2,880,674.00
19. Federal Staff Support Years (FTE)	8.00	8.00

20a. How does the Committee accomplish its purpose?

The Scientific Advisory Board (SAB) fulfills several critical functions for the Air Force: 1) provides independent technical advice to Air Force (AF) leadership, 2) studies topics deemed critical by the Secretary and Chief of Staff of the Air Force, as well as Major Command - Commanders 3) recommends applications of technology to improve AF capabilities, 4) provides an independent review of the quality and relevance of AF Science and Technology programs. These are accomplished through study panels, advisory groups, and review panels. The SAB's major FY 2018 study effort involved two (2) studies which were drafted during a two-week session in June 2018 following several months of fact finding. The study topics for FY18 SAB studies consisted of: (1) Maintaining Technology Superiority for the U.S. Air Force, and (2) Technologies for Enabling Resilient Command and Control. The Maintaining Technology Superiority for the U.S. Air Force study was composed of four subcommittees (Air, Space, Cyberspace, and Rapid Technology), and the breadth/depth of the study was at least four times larger than a standard SAB study. This resulted in higher actual travel costs than projected in last year's annual comprehensive report. In addition, the SAB reviews the entirety of the Air Force Research Laboratory on a four-year cycle. During FY2018, the SAB reviewed individual Air Force S&T programs across four laboratories.

20b. How does the Committee balance its membership?

A major personnel challenge for the SAB is examining a wide variety of Science and Technology focus areas that aid the Air Force in the pursuit of technological superiority. The technical expertise of the membership is tracked using 26 distinct technical categories. A strong effort is made to balance board membership in terms of technical expertise, sector (academia, industry, and major scientific institutions), previous government experience, and diversity.

20c. How frequent and relevant are the Committee Meetings?

Typically, the entire board meets quarterly to deliberate and vote on the findings and recommendations from both studies and S&T reviews. Full board meetings occur in the Fall, Winter, Spring, and Summer timeframes. Major studies generally require several information gathering/fact-finding meetings and also hold administrative meetings for briefing preparation and report writing. Science and Technology reviews generally require

fact-finding meetings with each technology directorate being reviewed and may be preceded by visits to geographically separate units. FY18 was impacted by a government shutdown at the beginning of the calendar year. As a result, the winter board meeting was cancelled. Our September 2018 session will be preparatory in nature and will not involve deliberations or voting, so it will not be formally acknowledged as a Board meeting.

20d. Why can't the advice or information this committee provides be obtained elsewhere?

The Secretary of Defense has determined that no other DoD advisory committee can provide the independent advice provided by the board to the Secretary of the Air Force on scientific and technical issues facing the Department of the Air Force.

20e. Why is it necessary to close and/or partially closed committee meetings?

Meetings are not closed to the public unless the Department of Defense determines that items on the planned agenda meet the closed meeting provisions of 5 U.S.C. § 552b(c-1). Pursuant to DoD policy closed meetings can only be authorized by the DoD Sponsor, who is the Secretary of the Air Force or designee, and only after consultation with the appropriate General Counsel.

21. Remarks

The SAB completed two (2) studies in FY2018 along with five individual technical reviews of Air Force Science and Technology Programs. The report publication process is ongoing and should be completed by late spring of 2019. If a public release version of a report is published, it will be made available on this website. The SAB provides independent advice on matters of science and technology relating to the Air Force mission, reporting directly to the Secretary of the Air Force and Chief of Staff of the Air Force. Since 1944, luminaries such as Dr. Theodore von Kármán, General James Harold "Jimmy" Doolittle, Dr. Ivan Gettling, Dr. Edward Teller, and Dr. Charles Stark Draper, and more recently Dr. Robert Lucky and Mrs. Natalie Crawford, have provided visionary and forward-looking advice on technologies such as: supersonic aircraft, weather forecasting, satellite communications, medical research, crewless airplanes, and defenses against aircraft and missiles. Today, the SAB continues to emphasize future technologies through its in-depth reviews of the Air Force Research Laboratory's science and technology developments, and its studies of topics tasked by the Secretary and Chief of Staff. Recent SAB studies have informed Air Force leadership and influenced science and technology pursued and adopted by the Air Force. The SAB continues to look into the future, helping enable continued affordable technological pre-eminence of the U.S. Air Force and the Nation. The annual operating cost for parent committee members in FY18 is ~\$680,000 annually, to include travel, meetings, and contract support. In the SAB charter it states that this

number is approximately \$2,000,000. Please note that the delta in FACA reported cost data and the charter results from the inclusion of sub-committee members that comprise roughly 70% of the membership.

Designated Federal Officer

Evan G Buschmann DFO

Committee Members	Start	End	Occupation	Member Designation
Bear, Michael	01/27/2015	01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Bishop, David	01/27/2015	01/26/2019	Academic Institutes	Special Government Employee (SGE) Member
Butler, Steven	01/27/2015	01/26/2019	Academic Institutes	Special Government Employee (SGE) Member
Choi, Melissa	01/27/2015	01/26/2019	FFRDC	Special Government Employee (SGE) Member
Chow, James	09/14/2016	09/13/2020	FFRDC	Special Government Employee (SGE) Member
Crawford, Natalie	01/27/2015	01/26/2019	FFRDC	Special Government Employee (SGE) Member
Dahm, Werner	01/27/2015	01/26/2019	Academic Institutes	Special Government Employee (SGE) Member
Davis, Christina	01/27/2015	01/26/2019	Academic Institutes	Special Government Employee (SGE) Member
Emdee, Jeffery	01/27/2015	01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Endsley-Jones, Mica	09/22/2015	09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Fratamico, John	01/27/2015	01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Garibaldi, Ryan	01/28/2015	01/27/2019	FFRDC	Special Government Employee (SGE) Member
Hoffman, Donald	01/31/2018	01/30/2022	Other- Retired/Consultant	Special Government Employee (SGE) Member
Lardieri, Patrick	09/23/2015	09/22/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
McGinn, Darcy	09/22/2015	09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
McQueeney, David	01/28/2015	01/27/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Muellner, George	01/31/2018	01/30/2022	Other- Retired/Consultant	Special Government Employee (SGE) Member
Peery, James	09/22/2015	09/21/2019	National Labs	Special Government Employee (SGE) Member
Rhoads, Charles	09/23/2015	09/22/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Sandell, Nils	09/14/2016	09/13/2020	Other- Retired/Consultant	Special Government Employee (SGE) Member
Bear, Michael [Basic Sciences Subcommittee]	01/27/2015	01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Bishop, David [Basic Sciences Subcommittee]	01/27/2015	01/26/2019	Academic Institutes	Special Government Employee (SGE) Member
Campbell, Mark [Basic Sciences Subcommittee]	09/15/2016	09/14/2020	Academic Institutes	Special Government Employee (SGE) Member
Davis, Cristina [Basic Sciences Subcommittee]	01/27/2015	01/26/2019	Academic Institutes	Special Government Employee (SGE) Member

Endsley-Jones, Mica [Basic Sciences Subcommittee]	09/22/2015 09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Farhat, Charbel [Basic Sciences Subcommittee]	09/22/2015 09/21/2019	Academic Institutes	Special Government Employee (SGE) Member
Melvin, William [Basic Sciences Subcommittee]	09/22/2015 09/21/2019	FFRDC	Special Government Employee (SGE) Member
Merriman, Stephen [Basic Sciences Subcommittee]	01/27/2015 01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Rhoads, Charles [Basic Sciences Subcommittee]	09/22/2015 09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Schmidt, Lara [Basic Sciences Subcommittee]	09/15/2016 09/14/2020	FFRDC	Special Government Employee (SGE) Member
Sonsteby, Alan [Basic Sciences Subcommittee]	09/22/2015 09/21/2019	Academic Institutes	Special Government Employee (SGE) Member
Specht, Lindley [Basic Sciences Subcommittee]	01/31/2018 01/30/2022	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Suntharalingam, Vyshnavi [Basic Sciences Subcommittee]	01/31/2018 01/30/2022	FFRDC	Special Government Employee (SGE) Member
Wiechman, Alan [Basic Sciences Subcommittee]	01/31/2018 01/30/2022	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Zambre, Yadunath [Basic Sciences Subcommittee]	09/15/2016 09/14/2020	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Bear, Michael [Defense Operations and Systems Subcommittee]	10/01/2014 09/30/2018	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Bontz, Robert [Defense Operations and Systems Subcommittee]	01/31/2018 01/31/2022	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Butler, Steven [Defense Operations and Systems Subcommittee]	01/27/2015 01/26/2019	FFRDC	Special Government Employee (SGE) Member
Carlson, Bruce [Defense Operations and Systems Subcommittee]	09/22/2015 09/21/2019	Retired Government	Special Government Employee (SGE) Member
Chow, James [Defense Operations and Systems Subcommittee]	09/15/2016 09/14/2020	FFRDC	Special Government Employee (SGE) Member
Crawford, Natalie [Defense Operations and Systems Subcommittee]	01/27/2015 01/26/2019	FFRDC	Special Government Employee (SGE) Member
Dahm, Werner [Defense Operations and Systems Subcommittee]	10/27/2015 10/26/2019	Academic Institutes	Special Government Employee (SGE) Member
Garibaldi, Ryan [Defense Operations and Systems Subcommittee]	01/27/2015 01/26/2019	FFRDC	Special Government Employee (SGE) Member
Hoffman, Donald [Defense Operations and Systems Subcommittee]	01/31/2018 01/30/2022	Retired Government	Special Government Employee (SGE) Member
Lyles, Lester [Defense Operations and Systems Subcommittee]	09/15/2016 09/14/2020	Retired Government	Special Government Employee (SGE) Member
Muellner, George [Defense Operations and Systems Subcommittee]	01/31/2018 01/31/2022	Retired Government	Special Government Employee (SGE) Member
Olson, Kenneth [Defense Operations and Systems Subcommittee]	09/15/2016 09/14/2020	FFRDC	Special Government Employee (SGE) Member

Sandell, Nils [Defense Operations and Systems Subcommittee]	09/15/2016 09/14/2020	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Solomon, Moise [Defense Operations and Systems Subcommittee]	01/27/2015 01/26/2019	FFRDC	Special Government Employee (SGE) Member
Warner, Steve [Defense Operations and Systems Subcommittee]	01/31/2018 01/31/2022	FFRDC	Special Government Employee (SGE) Member
Choi, Melissa [Information Systems Subcommittee]	01/27/2015 01/26/2019	FFRDC	Special Government Employee (SGE) Member
Chow, James [Information Systems Subcommittee]	09/15/2016 09/14/2020	FFRDC	Special Government Employee (SGE) Member
Fratamico, John [Information Systems Subcommittee]	01/27/2015 01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Hsu, Juliana [Information Systems Subcommittee]	01/31/2018 01/30/2022	National Labs	Special Government Employee (SGE) Member
Karagozian, Ann [Information Systems Subcommittee]	02/02/2018 02/01/2022	Academic Institute	Special Government Employee (SGE) Member
Kempel, Leo [Information Systems Subcommittee]	01/31/2018 01/30/2022	Academic Institute	Special Government Employee (SGE) Member
Kohno, Tadayoshi [Information Systems Subcommittee]	09/15/2016 09/14/2020	Academic Institutes	Special Government Employee (SGE) Member
Lardieri, Patrick [Information Systems Subcommittee]	09/22/2015 09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
McGinn, Darcy [Information Systems Subcommittee]	09/22/2015 09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
McQueeney, David [Information Systems Subcommittee]	01/27/2015 01/26/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Peery, James [Information Systems Subcommittee]	09/22/2015 09/21/2019	FFRDC	Special Government Employee (SGE) Member
Rejto, Stephen [Information Systems Subcommittee]	09/22/2015 09/21/2019	FFRDC	Special Government Employee (SGE) Member
Sandell, Nils [Information Systems Subcommittee]	09/15/2016 09/14/2020	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Simer, Gregory [Information Systems Subcommittee]	01/31/2018 01/31/2022	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Stadter, Patrick [Information Systems Subcommittee]	09/22/2015 09/21/2019	FFRDC	Special Government Employee (SGE) Member
Alleyne, Andrew [Vehicle Systems Subcommittee]	09/15/2016 09/14/2020	Academic Institutes	Special Government Employee (SGE) Member
Blow, Aaron [Vehicle Systems Subcommittee]	02/02/2018 02/01/2018	FFRDC	Special Government Employee (SGE) Member
Brown, Alison [Vehicle Systems Subcommittee]	09/15/2016 09/14/2020	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Carlson, Bruce [Vehicle Systems Subcommittee]	09/22/2015 09/21/2019	Retired Government	Special Government Employee (SGE) Member
Dahm, Werner [Vehicle Systems Subcommittee]	10/28/2015 10/27/2019	Academic Institutes	Special Government Employee (SGE) Member
Emdee, Jeffery [Vehicle Systems Subcommittee]	01/27/2015 01/26/2019	FFRDC	Special Government Employee (SGE) Member
Gabreski, Terry [Vehicle Systems Subcommittee]	09/15/2016 09/14/2020	Retired Government	Special Government Employee (SGE) Member
Graham, Samuel [Vehicle Systems Subcommittee]	09/15/2016 09/14/2020	Academic Institutes	Special Government Employee (SGE) Member
Hall, Eric [Vehicle Systems Subcommittee]	02/02/2018 02/01/2022	FFRDC	Special Government Employee (SGE) Member

Patterson, Patric [Vehicle Systems Subcommittee]	02/02/2018 02/01/2022	Academic Institutes	Special Government Employee (SGE) Member
Pelc, Daryl [Vehicle Systems Subcommittee]	09/22/2015 09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member
Pue, Alan [Vehicle Systems Subcommittee]	09/15/2016 09/14/2020	FFRDC	Special Government Employee (SGE) Member
Saeger, Kevin [Vehicle Systems Subcommittee]	01/31/2018 01/30/2022	National Labs	Special Government Employee (SGE) Member
Shannon, Gregory [Vehicle Systems Subcommittee]	01/31/2018 01/30/2022	Academic Institutes	Special Government Employee (SGE) Member
Young, Marvin [Vehicle Systems Subcommittee]	09/22/2015 09/21/2019	Companies or Industry-Affiliated Organizations	Special Government Employee (SGE) Member

Number of Committee Members Listed: 80

Narrative Description

The Air Force Scientific Advisory Board (SAB) studies are undertaken on topics approved by the Secretary and Chief of Staff of the Air Force. Thus, these are topics the Air Force Senior Leadership sees as essential to carry out the Air Force Mission in the years ahead. SAB recommendations cover both operational concepts and technologies to support the warfighter - both essential elements of the ongoing USAF transformation. The SAB supports the maintenance of superior science and technology in the Air Force Research Laboratory (AFRL) through quality reviews which assess the quality and relevance of the Air Force mission of research supported by AFRL.

What are the most significant program outcomes associated with this committee?

Checked if Applies

Improvements to health or safety	<input checked="" type="checkbox"/>
Trust in government	<input checked="" type="checkbox"/>
Major policy changes	<input checked="" type="checkbox"/>
Advance in scientific research	<input checked="" type="checkbox"/>
Effective grant making	<input type="checkbox"/>
Improved service delivery	<input type="checkbox"/>
Increased customer satisfaction	<input type="checkbox"/>
Implementation of laws or regulatory requirements	<input type="checkbox"/>
Other	<input type="checkbox"/>

Outcome Comments

NA

What are the cost savings associated with this committee?

Checked if Applies

None	<input type="checkbox"/>
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Unable to Determine	<input checked="" type="checkbox"/>
Under \$100,000	<input type="checkbox"/>
\$100,000 - \$500,000	<input type="checkbox"/>
\$500,001 - \$1,000,000	<input type="checkbox"/>
\$1,000,001 - \$5,000,000	<input type="checkbox"/>
\$5,000,001 - \$10,000,000	<input type="checkbox"/>
Over \$10,000,000	<input type="checkbox"/>
Cost Savings Other	<input type="checkbox"/>

Cost Savings Comments

The Air Force invests roughly \$4.6B per year on science and technology. The SAB advises AF leadership on a wide range of technology related items, and while SAB activities have influence on the content of the S&T portfolio, in general the SAB does not directly address budgeting and investment issues.

What is the approximate Number of recommendations produced by this committee for the life of the committee?

877

Number of Recommendations Comments

The SAB has been in existence for almost 75 years. The number of recommendations (877) shown above dates back to 2003. In FY17, the Committee made 29 recommendations to the Air Force (12 Study related and 17 S&T Review related, although there were additional SAP-level recommendations). In FY18, the Committee has made 45 recommendations to date, all stemming from S&T reviews; the FY18 study recommendations have not yet been released to the SecAF, so they have not yet been captured here. Upon completion of the Studies outbrief to the SecAF, we will add these recommendations and assess their acceptance/partial acceptance.

What is the approximate Percentage of these recommendations that have been or will be Fully implemented by the agency?

52%

% of Recommendations Fully Implemented Comments

Dating back to 2003, there is sufficient evidence through Air Force feedback and subsequent activity that 454/877 SAB recommendations have been fully adopted.

What is the approximate Percentage of these recommendations that have been or will be Partially implemented by the agency?

14%

% of Recommendations Partially Implemented Comments

Dating back to 2003, there is sufficient evidence through Air Force feedback and subsequent activity that 120/877 SAB recommendations have been partially adopted.

Does the agency provide the committee with feedback regarding actions taken to implement recommendations or advice offered?

Yes ☒ No ☐ Not Applicable ☐

Agency Feedback Comments

The Military Deputy, Office of the Assistant Secretary of the Air Force for Acquisition provides feedback at quarterly board meetings. Additionally, the Air Force Research Laboratory Commander provides feedback at outbriefs and other board venues. The Air Force Secretary (or her official designee) also provides feedback at the board's annual Summer Session.

What other actions has the agency taken as a result of the committee's advice or recommendation?

Checked if Applies

Reorganized Priorities	<input checked="" type="checkbox"/>
Reallocated resources	<input checked="" type="checkbox"/>
Issued new regulation	<input type="checkbox"/>
Proposed legislation	<input type="checkbox"/>
Approved grants or other payments	<input type="checkbox"/>
Other	<input type="checkbox"/>

Action Comments

When Air Force leadership adopts a SAB recommendation, this adoption may involve reorganized research priorities within the Air Force Research Laboratory (AFRL) or a reallocation of resources within AFRL or a MAJCOM to either engage in a certain technology endeavor or divestiture.

Is the Committee engaged in the review of applications for grants?

No

Grant Review Comments

NA

How is access provided to the information for the Committee's documentation?

Checked if Applies

Contact DFO	<input checked="" type="checkbox"/>
Online Agency Web Site	<input checked="" type="checkbox"/>
Online Committee Web Site	<input checked="" type="checkbox"/>
Online GSA FACA Web Site	<input checked="" type="checkbox"/>
Publications	<input checked="" type="checkbox"/>
Other	<input checked="" type="checkbox"/>

Access Comments

Unclassified reports are available via the Defense Technical Information Center (DTIC), via the public, <http://www.dtic.mil/>, or the private side of DTIC.